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JOSEPH RITCHKEN, M.D.

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The Treatment of Osteitis Pubis with Anticoagulants

A REPORT OF THREE CASES IN AFRICANS

BY

GUNNAR HOLMGREN,

B.SC., M.B., CH.B. (BIRM.)

Harare Hospital

Case 1.

W.M. is a 66-year-old farm labourer from near Beatrice, Rhodesia. He presented to Harare Hospital on the 6th January, 1971, with a history of inability to pass urine for three days. He was found to have acute retention of urine, with a moderately enlarged prostate.

Transvesical prostatectomy was carried out on the 15th January. Histology showed a benign hyperplasia of the prostate with no evidence of malignancy.

He had a stormy post-operative period with clot retention, developing sepsis in the wound, and ultimately a suprapubic urinary fistula which did not close. It was thought that he had a stricture of the urethra and bouginage was performed on the 1st February. Four days later he suddenly collapsed with what appeared to be septicaemic shock. He responded well to vigorous medical measures.

On the 3rd of March, six and a half weeks after his original operation, he began to complain of severe pain in his pelvis, such that he was unable to walk. On examination he was found to be exquisitely tender over his symphysis pubis and it was impossible to abduct his legs because of the severe pain. An X-ray of his pelvis showed the classical picture of osteitis pubic with rarefaction of the bone next to the symphysis with a moth-eaten ragged appearance. (See Fig. 1.)

On the 6th of March the patient suddenly collapsed while in the bathroom and was found to be severely shocked with marked cyanosis, cold clammy skin, a fast thready pulse, tachypnoea and a jugular venous pulse that was raised 5 cm. It was assumed that he had suffered a pulmonary embolus and he was heparinised, given oxygen, digitalised and put on to frusemide. A central venous pressure manometer was put up and showed a central venous pressure (C.V.P.) of 16 cm. His fluids were restricted and given according to the C.V.P. reading. He was also given hydrocortisone.

The following day he developed a pleural friction rub at the left base. His E.C.G. showed S-T segment depression with inverted T waves but not the classical $S_1Q_2T_3$ picture. Chest X-rays never showed any collapse or consolidation.

Over the next 11 days he was treated with intravenous heparin, antibiotics and hydrocortisone as well as digoxin and diuretics. His clinical condition improved greatly, but the most striking change was the disappearance of pain over his pubis. At the end of this period there was no tenderness over the symphysis and the legs could be widely abducted without any pain. X-rays of his pelvis showed little change at this stage.

Case 2.

Mrs. M. C. is a 20-year-old para 1 who presented to Harare Hospital eight days after a normal vaginal delivery, with marked tenderness over the symphysis pubis. She was unable to walk due to the pain and had marked adductor spasm. An X-ray of the pelvis confirmed the diagnosis of osteitis pubis, with rarefaction of the pubic bones next to the symphysis. Within 4 hours of commencement of treatment with heparin she had dramatic relief of pain and tenderness, and after 10 days on heparin was discharged symptom-free on oral anticoagulants.

Case 3.

Mrs. E. M. is a 36-year-old para 6 who presented two days after a normal vaginal delivery with puperal sepsis and marked tenderness over the symphysis pubis, adductor spasm and inability to walk. X-rays confirmed a diagnosis of osteitis

Fig. 1—X-ray pelvis showing rarefaction of medial borders of pubic bones, especially on right.

pubis. She was treated with heparin and antibiotics, and six days after commencement of treatment she had marked relief of pain and tenderness. She was discharged after 10 days of heparin on oral anticoagulants, with no tenderness over the symphysis.

These cases are presented because of the comparative rarity of osteitis pubis. This diagnosis has not been recorded before at Harare Hospital. The three cases have shown an unusual dramatic improvement on treatment with heparin.

DISCUSSION

Osteitis pubis was originally described by Legueu and Rochet in 1923. It is defined as a self-limiting, non-suppurative osteonecrosis which usually begins at the symphysis pubis and extends to the pubic bones (Lisker and Knox, 1964). It is often associated with operations close to the pubis and, although it frequently follows infection in the retropubic space, is to be distinguished from a true osteomyelitis of the pubis (Coventry and Mitchell, 1961). It may follow all types of prostatectomy, although it is probably more common in the retropubic approach (Warwick, 1960). It is also a recognised complication of symphysiotomy in labour, hernia repairs and other operations in this area.

In a series of 45 patients with this condition reviewed from the Mayo clinic over a 23-year period, the average time of presentation after an operation was six and a half weeks. This was exactly the time interval elapsed in the first case. Most showed the same clinical features as the patients being presented, namely, exquisite tenderness over the pubic bone with severe spasm of the adductor muscles and inability to walk (Coventry and Mitchell, 1961).

There are four main theories as to the aetiology of this condition:

1. It has been related to trauma to the periosteum at the time of operation (Beer, 1924).
2. Some have postulated a low-grade infection of the bone and have isolated organisms of low-grade virulence from the bone (Goldstein and Rubin, 1947). However, this is an unusual finding and true infection in the bone is probably not the common cause.
3. There is evidence of venous thrombosis in the veins draining the pubic bone. Steinbach *et al.* (1955) showed by osseous phlebography an obstruction to venous flow from the pubis in this condition compared with other patients after the same operation, who had not developed osteitis pubis. Venous thrombosis would appear to be a major factor in this condition (Thornley, 1955).
4. It has been related to irritation of the sensory pelvic nerves by infection, causing trophic changes in the bone by a causalgia-like mechanism (Wheeler, 1941). It has, in this way, been linked to Suedeck's atrophy.

Lisker and Knox feel that a true infective process of the bone is unlikely because of the symmetrical bone changes on X-ray, the spontaneous recovery whatever treatment is given, the absence of abscess formation, the minimal systemic symptoms, and healing which occurs without excess bone formation. Very few investigators have isolated organisms from the pubic bone and antibiotics do not seem to influence the course of the disease in any way.

The treatment is generally unsatisfactory and a plethora of regimens have been advocated at various times, including immobilisation in a spica body cast, radiation therapy, vitamin B therapy, antibiotics, other chemotherapeutic agents, diathermy, injection of local anaesthetic into the prostate, prostigmin, ACTH, cortisone, bone curettage, and phenylbutazone. The disease appears to run an inexorable course for three to 12 months with pain and debility and finally a spontaneous recovery. The only definite alleviation of symptoms has come from the use of steroids (Coventry and Mitchell, 1961), and phenylbutazone (Barnes and Malament, 1963), and in the more severe cases, excision of the affected bone (Samellas and Finkelstein, 1962). Response even to these measures is usually slow and partial.

If this condition follows thrombosis of the veins draining the pubis as the evidence suggests, it would seem logical that anticoagulant therapy would be an important measure in treatment. The dramatic response to heparin in the present cases (albeit given for the pulmonary embolus in the first case) would suggest that this may be the ideal treatment. No reference has been found to the use of anticoagulants in the immediate treatment of osteitis pubis. The first patient had also received steroids in the course of his treatment, but the rapid complete disappearance of symptoms cannot be accounted for by this alone.

CONCLUSION

Evidence suggests that osteitis pubis is a disease caused by thrombosis of the veins draining the pubic bone, and anticoagulant therapy is advocated as the logical treatment of this condition in the acute phase. Three cases are presented where treatment with heparin gave dramatic symptomatic relief.

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